

SECTION 4

MISCELLANEOUS RECOMMENDATIONS FOR TIME-ON-TIME SCORING, CREW WEIGHT LIMITS AND CRUISING CLASS RATING ADJUSTMENTS

1.0 TIME-ON-TIME SCORING:

1.1 The single number, time-on-distance (TOD) ratings provided by PHRF-NW are intended primarily for scoring fleets with rating spreads not greater than 30 seconds per nautical mile competing on conventional windward/leeward or triangular closed courses under moderate wind conditions over still bodies of water. When these race conditions cannot be anticipated or met, PHRF-NW recommends scoring its fleets on the basis of time-on-time conversion factors (TCF's) applied to the elapsed finish times in lieu of time corrections for distance sailed. Time-on-time (TOT) scoring has been shown to produce closer, fairer corrected race results under the following conditions:

- A. Fleets competing with time-on-distance (TOD) rating spreads greater than 30 seconds per nautical mile.
- B. Fleets competing on moving bodies of water for which current direction does not change.
- C. Fleets competing in single direction (port-to-port) races.
- D. Fleets competing in very light or heavy wind conditions.

1.2 Time-on-time (TOT) scoring results are calculated simply by multiplying elapsed times by a time-on-time correction factor (TCF) to obtain corrected times. A typical "generic" time-on-time correction factor (TCF) is shown below with some considerations used in its formulation:

A. $TCF = A/(B + PHRF)$

Where "A" and "B" are fixed speed coefficients expressed in seconds per nautical mile,

and where "PHRF" is a boat's adjusted as-sailed (TOD) rating (also in seconds per nautical mile).

- B. The "A" coefficient in the numerator is usually selected to represent the predicted speed of the "middle" boat in a fleet for given race conditions. For example, if the "middle" boat rating (or average as-sailed rating of the fleet) was 100 and the boat was expected to sail at 5.538 knots on a closed course in a 10 knot wind, then "A" would be computed as $3,600/5.538$ or 650 seconds per mile. The "B" coefficient in the denominator would next be determined by deducting the "middle" boat (or average) as-sailed (PHRF) rating from the "A" coefficient. Using the same example, "B" would equal 650 less 100, or 550 seconds per mile. Accordingly, for this example the TCF for the "middle" boat would equal 1.000 (unity), which is intended. That is, the elapsed and corrected times for the "middle" boat will be identical. As a result, the TCF's for boats rating faster than the "middle boat" will be greater than 1.000 and the TCF's for boats rating slower than the "middle" boat will be less than 1.000.
- C. For heavy air, all downwind, or favorable current race conditions, the "A" coefficient should be reduced to reflect greater speed potential over the course. Conversely, for light air, all windward, or adverse current conditions, the "A" coefficient should be increased to reflect less course speed potential.
- D. A commonly used time-on-time correction factor (TCF) suggested by *US Sailing* takes the form:

$$TCF = 650/(550 + PHRF)$$

1.3 Race Committees electing to use time-on-time (TOT) scoring methods should clearly indicate that election in their Notice of Race and/or Sailing Instructions with an indication of the time-on-time correction factor (TCF) formula to be applied. For non-overall regattas with a wide disparity between average fleet time-on-distance ratings, separate time-on-time correction factor (TCF) formulas could also be considered for the scoring of each fleet.

2.0 CREW WEIGHT LIMITS:

2.1 PHRF-NW recognizes that the performance of a boat may be significantly enhanced, under certain conditions, by the addition of crew weight. Accordingly, PHRF-NW endorses the following crew weight limitations, as expressed as a crew number, for the discretionary use of Race Committees should those Committees choose to adopt these limitations in their Sailing Instructions:

BOAT LOA (Ft.)	CREW NUMBER	BOAT LOA (Ft.)	CREW NUMBER
20.00 or less	3	36.01 to 39.00	10
20.01 to 22.50	4	39.01 to 42.00	11
22.51 to 25.00	5	42.01 to 45.00	12
25.01 to 27.50	6	45.01 to 48.00	13
27.51 to 30.00	7	48.01 to 51.00	14
30.01 to 33.00	8	51.01 to 55.00	15
33.01 to 36.00	9	55.00 to 60.00	16

For boats greater than 60 feet in overall length, 16 crew plus one additional crew for each 5 feet of length greater than 60 feet.

2.2 Crew weight limitations shall not be applied to crew 12 years of age or younger.

3.0 "CRUISING CLASS" RATING ADJUSTMENTS:

3.1 PHRF-NW recognizes a need to accommodate those member boat owners and sailors who may wish not to maintain their boats or boat handling skills at a performance level implied by a standard PHRF-NW speed potential rating. Accordingly, PHRF-NW endorses the following "Cruising Class" rating adjustments, expressed in seconds per mile, for the discretionary use of Race Committees in local or Sub-Regional "Cruising Class" racing events, should those Committees choose to adopt these adjustments in their Sailing Instructions:

ADJUSTMENT DESCRIPTION	RATING ADJUSTMENT	RATING CODE
Roller furling genoa with LP greater than 120% J:	+3	FG.
Roller furling mainsail:	+3	FM
Windlass, stemhead, or pulpit mounted anchor:	+3	AE
Sail Inventory averaging 5 to 10 years in age:	+3	SI
Sail inventory averaging more than 10 years:	+6	SO
Displacement modification, up to 5% increase to rated displacement:	+3	DM
Displacement modification, beyond 5% increase to rated displacement:	+6	DL
Bottom condition, for minor blistering or minor bottom growth:	+3	BC
Bottom condition, for major blistering and/or significant bottom growth:	+6	BG
Performance factor, Race Committee discretionary adjustment: (For observed skipper and crew performance, up to +9 seconds for boats rating 120 or faster, and +15 seconds for boats rating 121 or slower)	+3 to +15	PF

3.2 Cruising class adjustments may be applied only to boats with current and valid PHRF-NW Rating Certificates, and should be made known to all "Cruising Class" race participants prior to any race event in which the adjustments are to be applied.

3.3 By endorsing these recommendations, PHRF-NW intends to encourage Race Committees to offer "Cruising Class" racing options within the framework of their general race and regatta events, where such events are conducted at a local or Sub-Regional level.